

Mapping critical thinking: key contributions for rethinking education*

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Abstract

Critical thinking is an essential tool for the rational and ethical evaluation of information and actions, making it a necessary element in making informed decisions and meaningfully participating in democratic discourse. Despite its acknowledged value, there remains a lack of consensus regarding its definition and approach, and research on its historical and philosophical development is limited. This study traces the historical-philosophical evolution of critical thinking, highlighting key contributions from Socrates to Peter Facione's Delphi Report. To facilitate its exploration and comprehension, this evolution is organised into four stages: Antiquity, Middle Ages, Renaissance and Modern Age, and Contemporary Age, each marked by significant milestones and historical shifts. Findings suggest that critical thinking is a dynamic concept influenced by diverse historical, cultural, and social factors. In particular, the contemporary understanding of critical thinking is deeply shaped by Western traditions, including rationalism, empiricism, positivism, and pragmatism. This study provides an enriched perspective on critical thinking, offering valuable insights into how its conception and applications can be refined and enhanced to better support current and future educational contexts.

Keywords

Critical thinking – History of philosophy – Educational practice – Educational research – Intellectual traditions.

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Introduction

Critical thinking is essential in developing rational and ethical citizens who, when faced with personal, academic, professional, and societal challenges, can reach well-founded conclusions and solve problems effectively. It is, therefore, a crucial competence for making informed decisions and engaging thoughtfully in the democratic process.

Despite its recognised importance and widespread popularity within educational practice and research, critical thinking remains a broad, multifaceted concept with different and often ambiguous definitions (Ericson, 2022; Hatcher; Possin, 2020). A literature review on this construct underscores a lack of consensus around its terminology, content, and parameters (Abrami *et al.*, 2015; Le; Hockey, 2022; Leach *et al.*, 2020; Pasquinelli *et al.*, 2020; Plummer *et al.*, 2022; Thonney; Montgomery, 2019). Moreover, there is limited research aimed at exploring its historical-philosophical evolution.

Understanding its background will allow for a better comprehension of the context and influences that have contributed to the development of critical thinking and how it has evolved over time in Western societies. Moreover, although critical thinking is a useful tool for analysing and evaluating arguments and problematic situations, it has a history and tradition that make it relevant and valuable in its own right.

Within this framework, this study aims to examine the historical-philosophical evolution of critical thinking in Western culture, tracing its development from Socrates, a pioneering figure in the field, to Peter Facione's Delphi Report, the first (and to date only) expert-led effort to reach a consensus definition of critical thinking. By highlighting the contributions of the most influential figures, this study offers a comprehensive map of critical thinking that spans both its philosophical roots and contemporary perspectives. For clarity, this evolution is organised into the following stages: Antiquity, Middle Ages, Renaissance and Modern Age, and Contemporary Era, each marked by significant milestones and historical shifts. Finally, the study discusses the main conclusions derived from this exploration.

Historical-philosophical foundations of critical thinking

Ancient Era (3.300 BCE-476 CE)

The intellectual roots of critical thinking are linked to the history of philosophy, tracing back to the Classical Era (Alejo, 2017). In particular, the history of the critical thinking movement is often associated with Socrates (470 BCE–399 BCE), who introduced the heuristic, or discovery-based, method in his teachings (Shumaila, 2017; Colln-Applying; Giuliano, 2017).

This dialectical approach, later named the *Socratic method*, used disciplined questioning to guide individuals toward more sophisticated, reflective, and independent thought (Quimis; Gutiérrez, 2018; Zuriguel, 2016). Notably, centuries later, Socratic questioning is still regarded as one of the most effective strategies for fostering critical

thinking (Hsu *et al.*, 2022; Wilberding, 2019). This approach uses reflective critique to explore one's inner reasoning, challenge assumptions, practise inductive thinking, and establish clear, logically consistent patterns that can be applied to similar situations (Sampson *et al.*, 2007; Colln-Appling; Giuliano, 2017).

Shortly after Socrates, Plato (427 BCE–347 BCE), founder of the Academy and a leading figure in rationalist thought, advanced the development of logic, thus contributing significantly to critical thinking (Betancourth, 2009). Plato was particularly interested in the dialectical generation of knowledge (Zuriguel, 2016), and drew a clear distinction between the *intelligible realm* (the abstract realm of ideas or forms) and the *sensible realm* (the world perceived by the senses). According to Plato, intellectual knowledge, generated through reason in the intelligible realm, is superior to sensory knowledge, which is rooted in the constantly changing, imperfect sensible world. Alongside this distinction, Plato explained knowledge involving synthesis, analysis, analogy, induction, and deduction.

In essence, Plato's theory of knowledge suggests that true understanding lies in the Ideas or Forms, which reside in the soul and are recalled when faced with specific objects or concepts. This theory has substantial implications for knowledge and education, suggesting that knowledge is accessed through reason rather than sensory experience.

For his part, Aristotle (384 BCE–322 BCE), polymath and student of Plato, is recognised as the first to systematise logic (Zuriguel, 2016). Aristotle proposed that reasoning, the fundamental element of thought, is constructed from propositions that can be systematically analysed. Consequently, if a structure of thought fails to align with logical principles, it is classified as fallacious and therefore invalid. Moreover, Aristotle advocated for a deliberative, rhetorical democracy supported by behaviour' norms to encourage social cohesion. In this context, he argued that education (*paideia*) should cultivate diligent (*spoudaíoi*) and autonomous citizens who engage in discussion and debate to reach conclusions on matters of justice and morality. For Aristotle, therefore, education was essential for a thriving political life and a well-functioning society, as it encouraged individuals to become responsible citizens who effectively fulfil their roles. Accordingly, he believed education should be a continuous, lifelong process beginning in childhood and grounded in reason rather than emotion, as this fosters the development of rational, responsible individuals.

Middle Ages (476-1492)

The period following the Classical Era, specifically mediaeval Europe from the 5th to the 15th centuries, has traditionally been seen as a time of limited intellectual development (Alejo, 2017). However, this narrow perspective overlooks the complexity and diversity of the era. While literacy was largely restricted to the clergy—limiting secular authorship and broader access to knowledge—Christian thinkers nonetheless made significant contributions to academic and religious life. Furthermore, significant

intellectual developments emerged across different regions and periods, showcasing a rich philosophical and theological activity throughout the Middle Ages.

One of the most prominent figures was the Italian Dominican Thomas Aquinas (1225–1274), who argued for the necessity of subjecting ideas to systematic critique as a fundamental step in their development (Mesones, 2016). As to anticipate his readers' questions and objections, Aquinas (1953) rigorously examined and responded to potential criticisms of his ideas (Fischl, 1994). Moreover, Aquinas demonstrated that the process of critiquing ingrained ideas or beliefs does not necessarily lead to their rejection. Rather, such critical or systematic evaluation may simply reveal that certain convictions lack solid foundations without requiring their outright dismissal. In this way, Aquinas illustrated how the Aristotelian empiricist system and Christianity are not inherently incompatible (Alejo, 2017; Paul, 1985).

Another influential thinker of the period was the Scottish Franciscan John Duns Scotus (1266–1308), known as “The Subtle Doctor.” Adapting the mediaeval Aristotelian view that human intellect can access knowledge through its natural powers, Scotus challenged both the contemporary doctrine of “illuminationism” (Dunaway, 2018) –which claimed divine illumination was necessary for certainty—and scepticism (Pickavé, 2010), which denied the possibility of certain knowledge. According to Scotus, individuals could access knowledge through the intellect's process of abstraction, drawing upon sensory experiences to form understanding.

The English Franciscan and prominent nominalist William of Ockham (1280–1349) was another key figure, recognised for his methodological and philosophical principle known as “Ockham's Razor,” later referred to as the principle of parsimony. According to this principle, given two theories with equal conditions and identical consequences, the simpler is preferable. Widely applied in scientific fields, this principle has significantly influenced the scientific method, promoting the evaluation of competing theories based on simplicity and sufficiency. Applied to critical thinking, this principle suggests that, when outcomes are equivalent, the simplest solution is often the best (Zuriguél, 2016).

Ockham also contributed to logic and epistemology. Specifically, he argued that the meaning of words depends on the speaker's intent. This perspective has significantly impacted modern theories of language and communication, suggesting that meaning is not objective but depends on the perspective and intentions of the speaker. This insight has led to deeper reflection on how ideas are conveyed and how language is interpreted, recognising that meaning arises from the perspectives and intentions behind communication rather than from an objective standard.

Renaissance and Early Modern Period (1492–1789)

During the Renaissance (15th–16th centuries), a transitional era between the Middle Ages and the beginning of the Early Modern Period (15th–18th centuries), there was a significant rise in interest in analysis and critique across various spheres of human life, driving notable changes in the way people thought. In particular, this period is

characterised by a revival of Greco-Roman literary styles, the establishment of schools, and the flourishing of thought across diverse fields. It is important to recognise, however, that the search for truth and critical analysis has been ever-present through history, continually adapting to the unique circumstances and demands of each era.

In this context, figures like the Italian Niccolò Machiavelli (1469–1527) and the English thinkers Sir Thomas More (1478–1535) and Francis Bacon (1561–1626) emerged as leading scholars, building on ancient foundations and paving the way for the development of freedom of thought, human rights, and democracy.

Machiavelli, particularly interested in the moral shortcomings, contradictions, and inconsistencies of political and ecclesiastical systems (Zamitiz, 2014), laid the groundwork for modern political thought by employing the scientific method as a foundation for reasoning (Sampson *et al.*, 2007). Around the same time, More applied a critical lens to existing social structures. Regardless of ongoing debates around the author's intent, his renowned *Utopia* (1516) serves as a sharp critique of rationalist optimism, anticipating ideas that modern societies would gradually adopt (Bidegain, 2010). Through his work, More illustrates how pure idealism, when applied to institutional design, can ultimately limit individual freedoms.

Similarly, Francis Bacon laid the foundations of modern science by exploring how the mind collects and organises information to acquire knowledge (Zuriguel, 2016). According to Bacon, knowledge is profoundly influenced by one's environment and social structures (Alejo, 2017), underscoring the need to study the world through an empirical perspective.

Aligned with Bacon's ideas, British philosopher John Locke (1632–1704), often considered the “Father of Classical Liberalism”, emerged as one of the most influential early English empiricists. Locke made crucial contributions to social contract theory, basic human rights, and the spirit of intellectual freedom.

By the early 17th century, as the Early Modern Period progressed, critical thought found its expression in thinkers such as the French rationalist René Descartes (1596–1650), often regarded as the intellectual founder of modern philosophy. In his pursuit of true knowledge, Descartes proposed that all ideas, regardless of discipline, should be examined through a method of systematic doubt (Von Colln-Appling; Giuliano, 2017); that is, using doubt as a tool to avoid error and, ultimately, to arrive at truth (Zuriguel, 2016). In this regard, Descartes argued for a methodical discipline to guide thinking with precision and rigour.

With David Hume (1711–1776), Descartes' moderate scepticism reached its most radical expression. From a sceptical-empirical perspective, Hume argued that absolute knowledge is ultimately unattainable (Fosl, 2020). In a philosophical landscape where the rationalist or innatist dogmatism of thinkers like Descartes and Leibniz contrasted with the empiricist scepticism of Locke and Hume, philosopher Immanuel Kant (1724–1804) attempted to reconcile these opposing views. Kant provided a masterful analysis of the relationship between sensory input and the mental faculties that structure our understanding.

Finally, the Early Modern Period was marked by French Enlightenment thinkers such as Charles-Louis de Secondat (better known as Montesquieu, 1689–1755), François-Marie Arouet (known as Voltaire, 1694–1778), Denis Diderot (1713–1784), and Jean-Jacques Rousseau (1712–1778). While their views often diverged, they all shared a firm belief in the necessity of ongoing, reasonable critical scrutiny of the human mind. Finally, Isaac Newton (1642–1727), a towering figure in modern science, exemplified intellectual freedom and systematic inquiry, making him a foundational influence on scientific thought.

Contemporary Era (1789–Present)

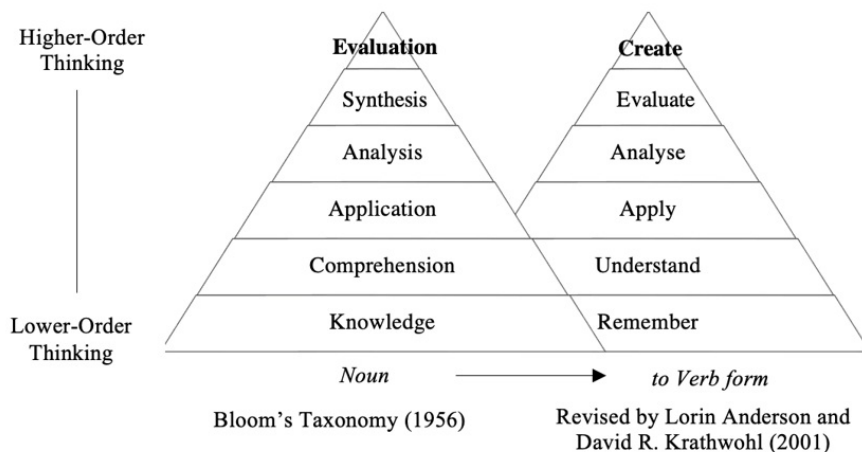
Throughout the 19th century, methodical thinking that emphasised precision and rigour began to influence various spheres of social life. Key figures in this shift included Charles Darwin (1809–1882) with his theory of evolution by natural selection; Karl Marx (1818–1883), whose critique of capitalism explored its social and economic impact; Sigmund Freud (1856–1939), who pioneered the study of the unconscious mind (Mesones, 2016); and, especially, educator, psychologist, and philosopher John Dewey (1859–1952). While Socrates is credited with initiating a questioning-based approach to learning, Dewey is widely regarded as the father of the modern tradition of critical thinking, particularly within education (Ennis, 2018; Thonney; Montgomery, 2019).

In the early 1900s, faced with intellectual challenges, government corruption, and laissez-faire approaches to social and economic issues, Dewey consistently emphasised the need for thoughtful and critical engagement across all domains of human life. He advocated for the cultivation and practice of reflective thinking, which he defined as “an active, persistent, and careful consideration of a belief or supposed form of knowledge in light of the grounds that support it and the further conclusions to which it tends” (Dewey, 1910, p. 9).

By defining reflective thinking as active, persistent, and careful, Dewey clearly distinguished between reflective and unreflective thinking. An example of the latter might involve “jumping” to conclusions or making decisions without adequate thought. In terms of critical thinking, the key aspect of Dewey’s definition lies in his emphasis on the quality of reasons that justify beliefs and the potential implications or consequences of those beliefs.

Aligned with Dewey’s educational focus, Benjamin Bloom’s taxonomy of educational objectives (1956) and its subsequent revision by Anderson and Krathwohl (2001) (Figure 1) stands as a notable contribution to the foundations of critical thinking. This taxonomy outlines various higher-order skills involved in information processing and, while not specific to critical thinking, can be interpreted as a precursor to its cognitive framework. In particular, Bloom’s higher-order skills –*analysis*, *synthesis*, and *evaluation*– are frequently associated with traditional critical thinking. Furthermore, the *create* level added in the Anderson and Krathwohl revision aligns with what we now refer to as *criticality*, which is the practical application of critical thinking.

Figure 1- Bloom's taxonomy and updated version



Source: Adapted from Bloom (1956) and Anderson & Krathwohl (2001).

Up to this point, we have briefly highlighted several influential authors, from Classical Greece to the Contemporary Era, whose contributions laid the groundwork for the study of critical thinking. However, the specific term “critical thinking” did not emerge until the mid-20th century. Today, it is widely recognised that the concept of critical thinking was inspired by John Dewey (Ennis, 2015; Huang *et al.*, 2017), coined by psychologist Edwar Glaser (Dwyer, 2017; Paul, 1985), and further endorsed by the analytical philosopher Max Back (Ennis, 2015).

Dewey is frequently referenced in academic literature as a pioneer who underscored the importance of critical thinking in education (Shutaleva *et al.*, 2021). In one of his early 20th-century works he explicitly used the term, stating:

The essence of critical thinking is suspended judgment; and the essence of this suspense is inquiry to determine the nature of the problem before proceeding to attempts at its solution. This, more than any other thing, transforms mere inference into tested inference, suggested conclusions into proof. (Dewey, 1910, p. 74).

This text is likely the earliest documented appearance of the term “critical thinking.” However, Dewey himself did not extensively use the term; it was his followers, particularly progressive educators, who redefined Dewey’s “reflective thinking” as “critical thinking.”

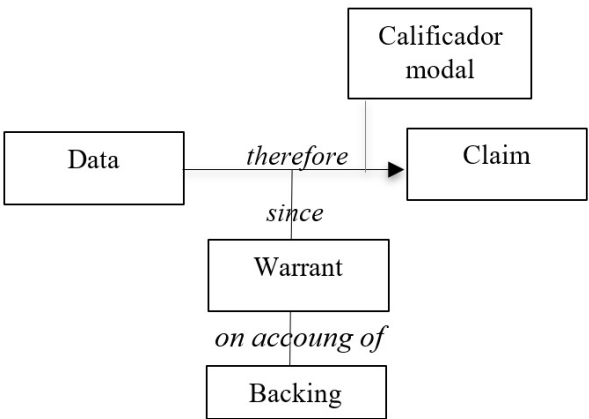
Around the same time, in the field of cognitive psychology, Edward Glaser began using the term “critical thinking” in his experiments aimed at developing this type of thinking. He further developed, alongside Watson, the “Watson-Glaser Critical Thinking Test” in 1940, a pioneering tool designed to measure critical thinking (Paul, 1985). Meanwhile, philosopher Max Black (1909–1988) was one of the first to incorporate the

term into philosophical logic, using it prominently in the title of his 1946 book on the subject (Ennis, 2015).

However, it was not until the 1970s that the interest in the study of critical thinking began to grow rapidly and globally (Ennis, 2015; Nieto Carracedo, 2005). This surge was largely driven by increasing awareness of the limitations of formal logic in evaluating certain arguments, particularly due to its monotonicity property (Reiter, 1980), and a subsequent dissatisfaction with traditional logic courses, which focused on symbolic or scholastic logic with truth tables. In response, a movement emerged in the 1960s in Canada, the United States, and the United Kingdom, that advocated for informal logic as a more comprehensive and precise approach to analysing and assessing everyday reasoning. This movement adopted the work of Stephen E. Toulmin (1922–2009) as a reference model for promoting and evaluating non-deductive reasoning (Nieto Carracedo, 2005).

Toulmin’s model distinguishes six elements of an argument (Figure 2). According to his model, when using information (data, evidence) to draw a conclusion (claim), the reasoning is refined through processes of support (warrant, backing) and counter-argument (rebuttal). This dynamic and complex model provides a practical framework that is readily applicable to real-world arguments and decision-making.

Figure 2- Toulmin Modelo of Argument



Source: Toulmin (1985).

In this context, the rise of the informal logic movement, now considered a subfield of philosophy, began to attract interest across various disciplines. In particular, pedagogy became interested in understanding its development, while psychology turned towards exploring the cognitive processes underlying thought. The combined contribution from these three fields—philosophy, education, and psychology—became the driving force behind the development of the critical thinking movement. While informal logic concentrated on reasoning and argumentation, critical thinking, with its inherently evaluative nature, reached beyond this scope. It examined not only the ability to argue or reason but also

encompassed a broader set of higher-order cognitive skills. As a result, the promotion of critical thinking aimed not merely at improving thought processes but also at fostering actions that aligned with this form of thinking.

Until the 1980s, critical thinking was still a developing concept; that is, a pre-emergent construct. However, from the 1980s onwards, the convergence of two key factors—the expanding informal logic movement and widespread dissatisfaction with students’ reasoning skills (Facione, 1990)—spurred a surge in the development of the critical thinking movement. This movement, heavily inspired by thinkers like Dewey, began to shape critical thinking as a distinct, empowered construct.

In this regard, a notable milestone underscoring the importance of critical thinking in education was California State University’s 1980 Executive Order 338 (Harmon, 1980). Reflecting Martin Luther King Jr.’s 1947 call for education to foster critical thinking (King *et al.*, 1992), this order explicitly stated that students must study critical thinking as a graduation requirement. At that time, critical thinking was described as “one of the basic skills that provides the foundation for advanced skills of all kinds” (Harmon, 1980, p. 37). Another significant example is identified in the American Philosophical Association’s (APA) 1985 statement, which urged educational authorities to consult professional philosophers on critical thinking curriculum and assessment (APA, 1985).

The critical thinking movement gained considerable momentum during the 1980s, and with it came an increasing need for a clear, shared definition of the construct (Facione; Facione, 1994). In response to this demand, in 1988, the APA organised an interactive panel of 46 American and Canadian experts in critical thinking from various disciplines² to reach a consensus on its nature and its role in educational models (Facione, 1990). The study was conducted using the Delphi methodology, a qualitative research approach developed by the Rand Corporation to achieve expert consensus on complex topics. The person who led this project and ensured anonymous and iterative communication among the experts was Peter Facione, a prominent philosopher and expert in critical thinking (Facione; Facione, 1994).

The result of this two-year consensus process was documented in what is known as *The Delphi Report* (Facione, 1990). This detailed report, heavily influenced by the work of prominent scholars such as Robert H. Ennis, Eugene Garver, Matthew Lipman, John E. McPeck, Stephen Norris, Richard W. Paul, Mark Weinstein, and Peter Winograd, delves into the nature of critical thinking and the characteristics of the ideal critical thinker. The Delphi Report is of utmost importance, as it represents the first (and thus far only) attempt to produce an expert-consensus definition in the history of the evolution of critical thinking within Western culture (Facione; Facione, 1994). Regarding critical thinking, the Delphi consensus panel defined it as follows:

We understand critical thinking to be purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential,

2- More than half of the panellists were academically affiliated with philosophy (24; 52.17%), 10 (21.73%) with education, 9 (19.56%) with social sciences (including psychology), and 2 (4.34%) with physical sciences.



conceptual, methodological, criteriological, or contextual considerations upon which that judgment is based. CT is essential as a tool of inquiry. As such, CT is a liberating force in education and a powerful resource in one’s personal and civic life. While not synonymous with good thinking, CT is a pervasive and self-rectifying human phenomenon (Facione, 1990, p. 3).

Building on this definition, the report further describes the ideal critical thinker as follows:

[...]is habitually inquisitive, well-informed, trustful of reason, open-minded, flexible, fair-minded in evaluation, honest in facing personal biases, prudent in making judgments, willing to reconsider, clear about issues, orderly in complex matters, diligent in seeking relevant information, reasonable in the selection of criteria, focused in inquiry, and persistent in seeking results which are as precise as the subject and the circumstances of inquiry permit. Thus, educating good critical thinkers means working toward this ideal. It combines developing CT skills with nurturing those dispositions which consistently yield useful insights and which are the basis of a rational and democratic society (Facione, 1990, p. 3).

Based on these parameters, the panel identified six interdependent critical thinking skills: interpretation, analysis, evaluation, inference, explanation, and self-regulation. Notably, analysis, evaluation, and inference skills achieved a 95% consensus among experts, while interpretation, explanation, and self-regulation reached an 87% agreement. These core skills were then further divided into 16 sub-skills, highlighting the complexity and depth of critical thinking (Table 1).

Table 1- Consensus list of critical thinking cognitive skills and sub-skills. Delphi Report (1990)

Cognitive skills	Sub-skills
Interpretation	Categorization Decoding Significance Clarifying Meaning
Analysis	Examining Ideas Identifying Arguments Analyzing Arguments
Evaluation	Assessing Claims Assessing Arguments
Inference	Querying Evidence Conjecturing Alternatives Drawing Conclusions
Explanation	Stating Results Justifying Procedures Presenting Arguments
Self-regulation	Self-examination Self-correction

Source: Facione (1990).

Notably, the experts' review of the concept of a critical thinker highlights its dual dimensions. On one hand, it refers to specific skills encompassing a range of cognitive abilities; on the other, it underscores a set of dispositions, understood as natural inclinations of thought or personality traits. According to the report, these affective tendencies in critical thinkers fall into two main categories: general dispositions for critical thinking in everyday life and dispositions for critical thinking applied to particular issues, questions, or problems.

Regarding general dispositions in daily life, a person demonstrates critical thinking by showing a natural curiosity, a commitment to staying informed, and an openness to diverse perspectives. Furthermore, they are attentive to opportunities for critical thought, confident in their ability to reason, and fair-minded in evaluating others' views. Such individuals are also mindful of their biases and are willing to reconsider their beliefs when honest reflection indicates it might be necessary. Essentially, these dispositions reflect a readiness to engage thoughtfully and adaptively with the world around them.

Similarly, when it comes to addressing specific issues, questions, or problems, a critical thinker brings clarity to defining the issue, organises their approach to manage complexity, and seeks out relevant information with diligence. They apply sound judgement in selecting criteria, maintain focus on the issue at hand, and show persistence in the face of challenges. Ultimately, their approach is as precise and thorough as the context allows, aiming for a well-reasoned outcome grounded in carefully considering the available evidence.

Importantly, the report advocates for fostering these dispositions to extend the use of critical thinking skills beyond academic settings. Moreover, in the experts' view, critical thinking skills hold limited value if not paired with a genuine inclination to engage in critical discourse (O'Hare; McGuinness, 2015).

Equally significant is the fact that critical pedagogy and the critical curriculum approach have developed in opposition to traditional educational models that reinforce the status quo. These traditional models, often defined by passive knowledge transfer and rote memorisation, have been criticised for failing to encourage critical thinking and creativity. Key figures in critical pedagogy include Paulo Freire and Henry Giroux. Freire champions the development of critical consciousness and creative, divergent thinking as tools for social transformation (Freire, 2018). From his perspective, critical thinking enables a process of knowledge construction that diverges from the "banking model of education" (1970). Similarly, Giroux (1988) argues that traditional education, in its aim to preserve the dominant social order, actively curtails the development of critical thinking. According to Giroux, educational institutions hinder social change by not cultivating the skills necessary for fostering independent, critical thought.

Thus, conceptualisations of critical thinking range from a narrow focus on argumentation skills to broader frameworks that include a diverse array of cognitive skills, dispositions, actions, and social interactions.

Conclusion

The historical analysis of the intellectual roots and evolution of critical thinking provides helpful insights into its relationship with education and its impact on modern society. Over centuries, critical thinking has been a fundamental driver of human progress, with its integration into education playing a pivotal role in shaping individual minds and societal development.

From its origins in ancient Greece, where philosophers such as Socrates, Plato, and Aristotle championed logical argumentation as a pathway to truth, to the influence of scholastic philosophy in the Middle Ages, which emphasised logical reasoning and dialectics in philosophical and theological enquiry (Alejo, 2017), critical thinking played a powerful role for the advancement of knowledge.

The Renaissance marked a shift toward observation, logical reasoning, and empirical evidence, establishing the foundation of modern critical thinking. Philosophers like Bacon and Descartes promoted scientific methods as essential tools for understanding the world, a principle that endures today (Zuriguél, 2016). The Enlightenment of the Early Modern period extended this notion further, advocating reason and critical analysis as tools to improve society.

In the Contemporary Era, critical thinking has encountered new dimensions and challenges with the rise of globalisation and technology. In a digital, globalised world, critical thinking faces the challenge of navigating vast volumes of online information, where accuracy and reliability are not always clear (Sánchez, 2019). Moreover, critical thinking has evolved to encompass not only cognitive skills but also attitudes, behaviours, and social competencies (Davies, 2015; Paul; Elder, 2009; Ten-Dam; Volman, 2004). This expanded conceptualization, therefore, calls for a holistic approach to its development, especially in education.

These advancements, however, are not without limitations. Historically, critical thinking has been largely shaped by Western and male perspectives, limiting a full appreciation of diverse cultural and gender viewpoints on the construct (Rodríguez, 2017). This underscores the need for a more inclusive understanding of critical thinking that values and incorporates influences from a broader range of intellectual traditions.

Integrating critical thinking effectively into contemporary educational systems is also challenging due to structural barriers and outdated teaching methods (Larsson, 2017; Vendrell-Moranco, 2024). Understanding the intellectual roots of critical thinking and its historical development offers an opportunity to reshape educational practices, fostering more critically engaged citizens. To fully leverage the potential of critical thinking in education, these barriers must be addressed, and innovative approaches to integration explored to promote the growth of students' analytical and ethical competencies.

At the same time, a pressing question emerges in today's rapidly changing world: how can critical thinking adapt and thrive in a digital environment bombarded with information, where the authenticity and reliability of data are often questionable? The convergence of critical thinking and the digital age presents a challenge and a unique opportunity to redefine how we approach information. In an era of ubiquitous (yet not

always trustworthy) information, critical thinking becomes a vital societal tool. It serves not only as a defense against misinformation but also as a resource for fostering an informed, active citizenry, equipped to question assumptions, assess credibility, and discern truth from falsehood. Further research is essential to deepen our understanding of critical thinking's role in this complex postmodern landscape.

In summary, critical thinking has been an intellectual beacon throughout human history, cultivating analytical and ethical thought through education. Despite the challenges it faces today, from globalisation to the digital revolution, critical thinking offer citizens a foundation for discerning trustworthy information and making choices that align with ethical standards. Overcoming historical and contemporary limitations, effectively embedding critical thinking in education, and exploring its applications in the postmodern era are crucial steps to fully harnessing its potential to address current and future challenges.

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